dochus, it should be removed and a drain placed in the cystic duct. Mr. Robson urges the importance of cholecystostomy in chronic pancreatitis. This drainage should be maintained until the bile by repeated cultures is shown to be sterile.

Choledochotomy for stone, whether direct or into the ampulla via the duodenum, must always be associated with a positive mortality. The very nature of the involved pathology which terminates in the crisis demanding relief is formidable.

The prolonged cholemia, the lowered vascular tone evidenced in petechia, the reduced hemoglobin and extreme anemia leave the patient little resistance to withstand the shock of operation.

Most of these patients can be materially improved by careful preparation with salt solution, tonics, good food, hot Sprudel and, later, calcic chlorid, for a proper period before operating. At the time of operation every modern measure for conserving vital energy and combating shock should be employed. The patient should be kept dry and warm on the table by a hot water or electric pad. Infusion of salt solution should be early. All bleeding points should be ligated. Drainage should be carried to the choledochus, if sutured, or into it if left open. If the calculus is in the ampulla and cannot be dislodged, it must be reached through the duodenum and by incision of the papilla, after the technic of McBurney. All the speed consistent with safe work should be used, and no detail to provide against embarrassment or delay should be thought trivial.

The mortality in chronic pancreatitis need not be high if precautionary measures are adequately observed. It will be growingly lower as an intelligent knowledge of its complex pathology is acquired and enforced in early diagnosis and surgical remedy.

DISCUSSION.

Dr. H. C. Moffitt, San Francisco.—Although fully realizing the help surgeons have been in furthering our knowledge of pathological conditions about the gallbladder and of the therapy of such conditions, yet it is wise to emphasize the fact that all cases of gallstones do not necessarily call for operation. The general state of the patient, his ability to care for himself and follow rules of diet and methods of cure at home or in Carlsbad should weigh heavily in the decision. Stones in patients of the ages of 65 or 70 which give only occasional pain and mild attacks of cholecystitis certainly are better left alone.

Afterresults of surgical treatment do not seem to me as good as pictured in the average surgical report; medical men see unsuccessful results perhaps more than surgeons. I have 2 or 3 patients reporting now who have quite as much pain from their adhesions as they had from gallstones; it is true they have been freed from dangerous complications in the future, but their present existence has not been benefited. Not only should the surgeon weigh carefully the condition of his patient before operating, but it seems to me he should give more attention to the condition during operation. I have seen unwise attempts to do too much at one time in gallbladder cases as in other abdominal conditions. In one woman whom I have in mind, the surgeon insisted on taking out a normal appendix at the time of the gallstone operation, with the result of much added shock and an infection in the appendix region which lengthened convalescence by many weeks.

For my small series of cases it would seem much wiser to save the gallbladder, unless extensive disease contraindicates it. During the last weeks I have seen a young woman return with obstructive jaundice, due in all probability to a common duct stone which had worked down from the cystic duct after cholecystectomy a year ago for stones in the gallbladder. It would be a great comfort now to have the gallbladder available for drainage.

A great number of people who have stones latent in the gallbladder keep perfectly comfortable if they attend properly to diet, and occasionally take home treatment with Carlsbad water and salts, or an occasional course of treatment with olive oil or sodium salicylate and benzoate. I believe that Koenig and Kocher are still content to carry their gallstones with them, and it seems too radical to advocate operation in every case of cholelithiasis. One must consider the patient as well as the gallbladder, and avoid hard and fast convictions on either side.

A MORE SIMPLE TECHNIC IN HERNIOTOMY.*

By O. O. WITHERBEE, M. D., Los Angeles.

THE radical cure of inguinal hernia has been the subject of perhaps as many essays as that of any procedure in the entire category of surgery. The reason is not that success has failed to attend the efforts of the modern surgeon in his endeavor to effect a cure, nor is it the result of variable complications arising in individual cases. Why, then, this array of surgical technic to close what is but little more than a simple breach in the abdominal wall? Is it because the method of one man is superior to that of another? Such is not necessarily the case; good results obtain alike from the various operations that have stood the test sufficiently to enjoy a fair degree of popularity.

All are reasonably successful if done in a painstaking manner with aseptic precautions. Yet the average man doing a general line of work, though fairly familiar with the modern methods of surgery, will invariably give a guarded prognosis as to the immediate results of herniotomy. While this is true of the average man, there are many others who will not attempt the operation at all. Reason for this hesitancy may be explained from different standpoints; either the operator lacks familiarity with the anatomy of the parts, or else he is unable to satisfactorily carry out the technic as laid down by the masters of the art.

From the first charge he should at least, through common courtesy, be held exempt. The second, however, is a different matter. Valid excuses may be presented for failure to comply with the requirements necessary to make the classic operation a success. Unwholesome surroundings, the lack of trained assistants and the absence of suitable material throw a dismal light over the field of hernia operations, and under such circumstances only the presence of a dangerous condition would induce the man of limited experience to interfere.

But why is a breach in the abdominal wall at this locality more difficult to correct than elsewhere? A median line incision may be closed in most any haphazard way, and the patient is relatively sure to have a satisfactory result. Little, too, do we expect suppuration here, and the operation may be conducted without the most rigid aseptic precautions. This, however, does not hold true in the inguinal region. Either the process of absorption is materially retarded or else the natural resistance of the tissues to microbic invasion is for some reason lessened in these parts. Certain it is that foreign material is not handled so kindly as in other localties, to which the discouraging experience of many men will testify who give their statistics without reservation.

Again, it must not be forgotten that in the radical cure of inguinal hernia, we endeavor to close a natural breach whose boundaries do not and never have remained in opposition. It is virtually a plastic operation in which the flaps are not freed from their original positions, but are expected to unite while under tension and ofttimes in vigorous functional activity associated with abdominal movements.

In the average abdominal section, the stitches after the first few days are scarcely more than passive. Agglutination quickly takes place and firm union speedily follows. Such is not the case in the hernia operation. The tugging on the stitch here never ends

*Read at the Thirty-fifth Annual Meeting of the State Society, Riverside, April, 1905.

until one of three things takes place: union is complete, the stitch is absorbed or sloughing has occurred. This being the case, one can readily realize the necessity of absolute cleanliness and the use of the best material.

It is well understood, however, that absolute cleanliness is an impossibility. With our present knowledge of aseptic and antiseptic precautions, no surgical operation can be performed without the entrance of micro-organisms into the wound. If from no other source, they are carried by the scalpel from the skin into the tissues beneath, while millions are scattered broadcast from the mouths and nostrils of all in attendance.

If this is true, we must rely, in a great measure at least, on the resistance of the tissues to the action of the infectious material introduced. The capability of the tissues to meet this requirement will depend very largely on their blood supply and the amount of abuse to which they are subjected. Enfeebled circulation or any unwarranted interference with the blood supply is a serious impediment to primary union, particularly in all regions where the tissue change is slow. That there is a difference in this regard between localities subject to surgical interference, we may, for example, consider the apparent immunity of the face and scalp to these retarding influences as compared with the inguinal region now under discussion.

Abuse of the tissues is certainly a factor of no small importance, and in that respect we should discourage all unnecessary dissection and manipulation. Bruising of the parts largely destroys or obliterates those channels through which absorption takes place, and while it thus retards the process of repair, it promotes suppuration by developing a condition favorable to microbic action. Should the tissues be additionally burdened by the presence of foreign substance of animal origin, thereby overtaxing the power of absorption, it is but reasonable to suppose that micro-organisms having once entered the wound, will meet with much less resistance than they would otherwise encounter. Wounds of the face and scalp may receive any amount of drubbing and have their surfaces smeared by discharges from the mouth, yet they are closed with whatever suture material is at hand, and the results are almost universally successful. Any practitioner of limited experience may do such work, and with the fullest assurance give a favorable prognosis. On the other hand, he would put a patient on the train and send him 50 or 100 miles to some specialist rather than cut down and liberate a strangulated hernia for fear that he could not properly close the wound and effect a cure.

I know men who would, without hesitation, perform appendectomy, yet would not attempt a radical operation for inguinal hernia so long as there were any possibility of controlling it by the use of a truss. This is an unfortunate state of affairs, and one that certainly merits an earnest endeavor to overcome the difficulty. What man of his own choosing would consent to wear an artificial apparatus to hold himself together for the remainder of life if he had the positive assurance that a 3 weeks' lay-off would rid him of the contrivance and put him on an equal footing physically with his fellow man?

Members of the medical profession are largely responsible for the prevailing opinion among the laity that a man's chances are far better while wearing a truss than they would be were he to undergo an operation. The same man would readily consent to take an anesthetic and have a bone set or wired if his physicians earnestly recommended it, yet he is persuaded to plod on through life with a hole in the bottom of his anatomy through which his vital organs are seeking to escape, and which may any day terminate his existence. Can we not devise a technic whereby the man of average surgical experience can perform herniotomy, and with reasonable assurance give a favorable prognosis?

Let it be borne in mind that I do not wish to criticise the classic operation for the correction of this deformity, nor do I presume to teach surgery to those who are thoroughly schooled in the art, but I do unreservedly take the stand that all men doing a general line of work should be able to perform certain surgical operations encountered in their own practice. Especially is this true when in remote localities emergencies arise which demand early decision and prompt action.

I am glad in watching the literature to note a swing of the pendulum toward simpler methods. There has long been a disposition on the part of leaders in the art to complicate technic in surgical work until the average man finds himself not alone inadequate from lack of experience, but embarrassed by the absence of suitable material, proper assistants and the necessary instruments to carry out the prescribed measures. My reason for preparing this paper is not so much with the object of presenting some new method as it is to explain the cause of hesitancy on the part of many men to embrace opportunities in their professional work. However, it is but natural that I should attempt some solution of the problem set forth, and in so doing, shall endeavor in a concise way to outline a simple procedure whereby many of the disadvantages already enumerated may be effectually and successfully avoided.

In considering what may be done, it is necessary first to review briefly those structures on which depends the integrity of the abdominal wall in the inguinal region.

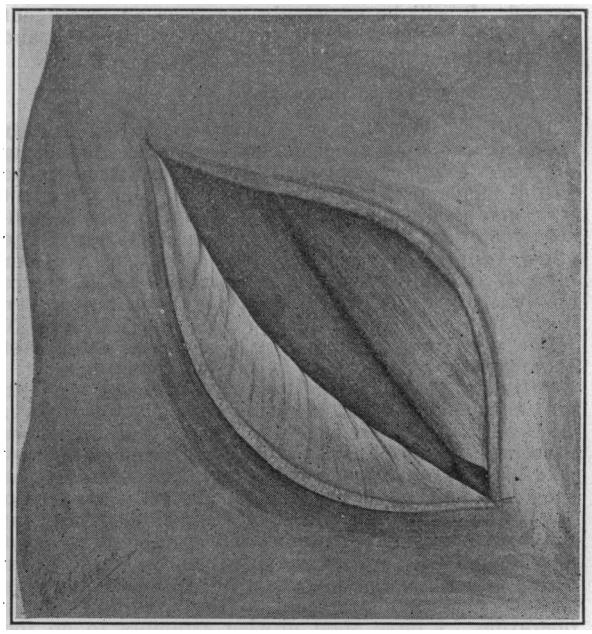

Fig. 1. Represents aponeurosis of external oblique which, in this location, is but a thin apron-like formation of fibrous tissue.

At the base of our field of operation we have Poupart's ligament, from near the middle of which arise the lowermost fibers of the internal oblique. These sweep upward and inward, arching across the cord just below the internal ring. From this point they are continued downward in a direction nearly parallel with a line midway between the outer border of the rectus and Poupart's ligament to a common insertion with the transversalis on the crest of the pubic bone. The space thus partially circumscribed by this section of an ellipse represents the natural breach in the abdominal wall.

The only structure left to resist the bulging forward of the peritoneum in this area is the transversalis

fascia, which, though re-enforced where it surrounds the cord, is but a frail barrier compared with the heavier muscles higher up.

The anterior wall of the so-called inguinal canal is represented by the attenuated fibers of the external oblique which in this locality is but a thin apron-like formation of fibrous tissue. Functionally it serves somewhat to check the hernia in its descent, but in nowise does this muscle operate to prevent its origin. This fact may be readily appreciated by passing the finger through the external ring in any given case.

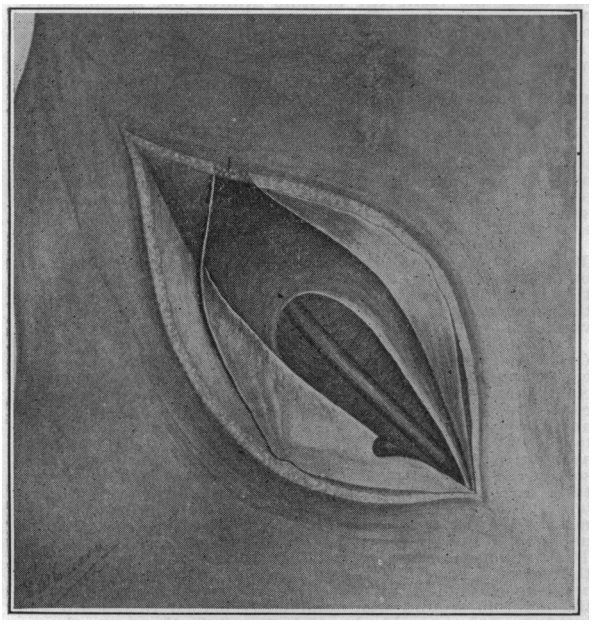

Fig. 2. Represents the breach in the internal oblique as found in the normal condition.

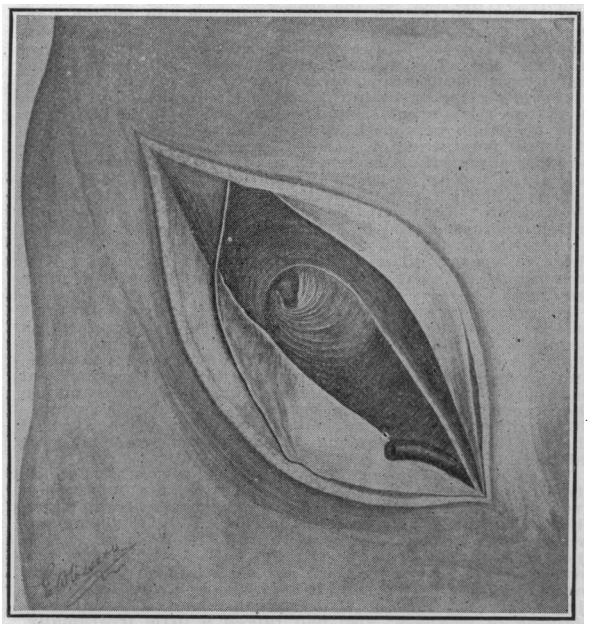

Fig. 3. Represents breach in internal oblique extending higher than usual, thereby exposing the opening in the transversalis fascia which favors production of hernia.

Much then depends on the integrity of the transversalis fascia, and should the internal ring open below the arched fibers of the internal oblique, or in other words communicate directly with this intermuscular space, we may expect a hernia to develop on the slightest provocation.

So long as the upper ring is securely covered by the internal muscle, the oblique, inguinal hernia is an impossibility. The direct variety due to rupture of the transversalis fascia may be sustained as a result of intra abdominal pressure, but even this is equally as impossible if the internal oblique can be firmly united with Poupart's ligament.

It matters not whether the cord be transplanted so long as the above named structures remain in apposition. Yet this same procedure is the great stumbling block at the present time, and the one which is indirectly responsible for so many failures to perform the operation and for the disastrous results in the hands of incompetent men.

Leave the cord alone and spare the tissues that unnecessary drubbing attending its manipulation. There can be no objection to preserving the natural relations of the parts, and there is certainly every reason for the preservation of the tissues. If interference with the cord is not necessary, then the operation is half done at the beginning. It is conceded that the majority of the recurrences take place at the internal ring, due in most cases to fatty or atrophic changes in the internal oblique. Yet in view of this fact, it is strongly urged that the cord should be brought through at this point, presuming thereby, it would appear, to provide greater resistance than could be afforded by firm union with unbroken continuity.

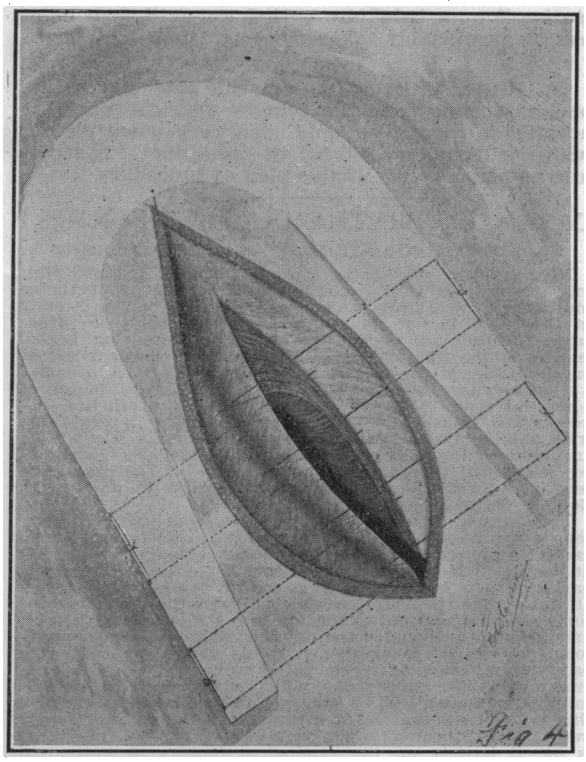

Fig. 4. Sutures in position which, when tightened, draw the internal borders of the external and internal oblique muscles firmly against Poupart's ligament. The sutures thus pass horizontally through adipose tissue and emerge from the skin at the outer borders of the plate.

It is also claimed by many that the presence of the cord back of the internal oblique is responsible for recurrences at the external ring. However, such recurrences are extremely rare, and granting their possibility, we must at the same time admit that they are much less likely to develop than would a hernia in a normal individual in whom the inguinal breach had never been repaired. I have never seen such a

recurrence, and I never expect to see one so long as the valve-like effect of the transversalis fascia is preserved by a suitable relation with the posterior surface of the internal oblique. It is also unfortunate that in transplanting the cord, it should be allowed to monopolize so large a surface of Poupart's ligament. The latter can be turned to a far better purpose by bringing in contact with it as large an area as possible of the internal oblique.

Poupart's ligament is a dense fibrous substance of a white glistening appearance, with a very sluggish circulation which greatly interferes in its union with other tissues. At best it is a frail structure considering the part it plays, and we should endeavor in all ways to effect the strongest union between it and the structures opposite. Due precaution should be taken that the sutures do not interrupt the blood supply, else sloughing will occur at the expense of approximation. To overcome this, I have used exclusively the figure-eight suture, which, if properly inserted, cannot be adjusted with sufficient tension to stop the circulation. It has the additional advantage of being removable, and consequently does not overburden the power of absorption.

To insure fixation and at the same time relieve the skin from undue pressure, a U-shaped plate is employed, to the arms of which are attached the sutures after they emerge from the skin. Four silk worm gut sutures thus introduced will effectually approximate both layers of Poupart's ligament with the external and internal oblique, the transversalis and rectus if necessary, and will maintain their approximation for an indefinite period, or until firm union has unquestionably taken place.

DISCUSSION.

Dr. Walter E. Bates of Davisville said that he, for one, as coming from the country districts where no hospital is readily at hand, was very much pleased with the technic as offered by the author. It struck him as being a very simple plan of procedure.

CASE OF ERYTHEMA MULTIFORMIS.*

By ALEXANDER GARCEAU, M. D., San Francisco.

In presenting this patient, A. M., age 27, to your clinical observation I wish to illustrate a case of erythema multiformis in a state of complete evolution. The interest in this case is not so much that it varies from other cases of its kind, except, perhaps, in presenting buccal lesions of the lips, of the eyelids and the classical lesions on the backs of the hands, in fact presenting *de omnibus*, a typical case; but there exists an etiological factor of some interest. He has suffered from a urethritis, not gonorrheal, since last November, and it was beginning with this source of irritation that he had his first attack and showed the first cutaneous manifestations. I did not see him until this, the third recurrence of the disease, a few days ago, when he was first referred to me by Dr. Geo. L. Eaton of this city.

This attack, like the previous ones, was ushered in by febrile symptoms which quickly subsided as the erythema made its appearance. The only inconvenience he has felt at any time is the burning sensation on the backs of the hands, which is imperceptible at the present time. You all know that the eruption which follows the febrile symptoms shows a marked exudation into the cutaneous tissue, and frequently includes the papular, anular and marginate forms of exudative erythema. This patient presents the papular and macular types, with the central deep violaceous target-like appearance which stamps it the unmistakable erythema iris. I have not the allotted time to give this subject all that is of interest of etiology and treatment that a proper paper would cover. The treatment is based largely on the etiological factors in individual cases. Kaposi claimed that we are unable to prevent the first eruption or subsequent relapses, or to accelerate the involution of the lesions, and that treatment is superfluous. Dr. Granville MacGowan, of Los Angeles, has recently given us, in an article in the "*Journal of Cutaneous Diseases*," February 1, 1905, a valuable experimental study of the use of epinephrin (adrenalin) solution internally in cases of erythema multiformis. He gives it in 10 minim doses every 2 hours for a few days, and illustrates its results by reporting several cases where it has shortened the course of the disease. Dr. MacGowan says in the therapy of epinephrin in these cases, it is sufficient to assume that the suprarenal capsules furnish to the blood an alkaloid, epinephrin, which by its presence prevents leakage of their contents from terminal blood vessels. I have not placed this patient on this treatment yet, but propose to do so as theoretically it appeals to me as the proper remedy in this class of cases.

*Presented to the San Francisco County Medical Society.

A CASE OF CEREBRAL ABSCESS OF OTITIC ORIGIN—OPERATION—APPARENT RECOVERY—RELAPSE—OPERATION—DEATH—AUTOPSY.*

By HILL HASTINGS, M. D., Los Angeles.

The complete history of the case is as follows:

Mrs. B., aged 35, sought treatment October 22, 1904, at the Ear Clinic of the Medical Department of the University of Southern California, and was in my care as assistant to Professor W. D. Babcock, in charge. She gave the following history: One week before, following a cold in the head, the right ear became stuffed up, accompanied by severe earache. For 3 or 4 days there had been a purulent discharge from the ear, and pain and tenderness in the mastoid, sufficient to prevent sleep. The general history was negative.

Examination showed a muco-purulent discharge (a smear from which contained diplococci); infiltration and sagging of the postero-superior canal wall, and an inflamed, bulging ear drum, with a small insufficient perforation. The mastoid showed a trace of edema in the post-auricular fold, and moderate tenderness on pressure over the antrum and tip. The temperature was 100°, and pulse 90. The drum membrane was incised; calomel and salts were given, and rest in bed, with irrigation of the ear every 2 hours, ordered.

By the following day the pain had eased up, the aural discharge was free, the temperature was 99°, pulse 64; but the mastoid tenderness had not changed. This condition remained the same for two days, when, on account of the increasing tenderness, a mastoid operation was advised.

Operation, October 26, 1904, at the County Hospital (with the permission and assistance of Dr. Babcock). The cortex was found hard and not perforated; the subcortical cells contained greenish yellow muco-pus (smear from the contents of 1 large tip cell showed streptococci); the antrum was full of muco-pus. The zygomatic cells contained inflammatory mucoid material; the dura over the antrum was exposed to a small extent on removing softened bone, and found normal. All the cellular structure was removed, including the tip, down to the hard bony wall covering the sinus, which was not exposed. The mastoid cavity was dried, packed with iodoform gauze, as usual, and the wound partially closed with silkworm gut. The temperature on the second day was 100.4°, and normal thereafter. By the twelfth day the patient was able to come to the office for dressings. On the twenty-first day the mastoid wound was sufficiently healed to discard the bandage and use a black patch, to retain the gauze dressing. The patient was then doing her household work. The ear discharge had ceased some time before. The perforation in the drum membrane had healed. The inflammation of the middle ear had subsided and the hearing about restored (watch 2 inches, whisper and speech normal at 20 feet). During the next 3 weeks the writer saw the patient every 3 or 4 days, to change the dressing behind the ear. The wound healed rapidly and cleanly. Her condition remained apparently normal up to December 7th, six weeks after operation, when she complained of a sick headache. No special significance was attached to this. The headache persisted, and as the pain was referred to the right frontal region, a nasal examination was made for possible suppuration in this sinus; but nothing was found. A change in the patient's disposition developed, but was only recalled after more positive signs of cerebral trouble showed up. That is, the patient became quiet, seemed rather depressed, and on leaving my office, after receiving a prescription for the "sick headache," acted as if something of a personal nature was causing uneasiness. This was remarked at the time, and was attributed to family troubles.

By reason of an illness, I did not see the patient for 3 or 4 days, during which time she was treated for the sick headache by a confrere, who reported on December 13th that she had suffered a good deal from frontal headache, and seemed to him to be growing dull. There had not been any elevation of the pulse and temperature, and, on the preceding night, there was noticed a sub-normal condition of both, with marked drowsiness; when aroused she would answer questions rationally, but would at once fall asleep.

When seen December 13th, the patient was in a semi-stupor; answered questions rationally and slowly when aroused, and at once relapsed into a stupor, from which she was aroused only by shaking her. While talking she would yawn listlessly; was weak and uncomplaining; said the headache had decreased, but still had pain in and over the eyes, worse on the right side; and no pain in the mastoid region. Her friends said she had vomited 3 or 4 times the past day or two, suddenly and without complaining of sickness; also had talked a little irrationally. A careful inquiry failed to elicit a history of similar attacks, or of hysteria, or of drug habits.

The examination notes made at the time are as follows: Temperature 98.6°, pulse 60. Mastoid wound practically healed; no tenderness on or over the mastoid; doubtful tenderness over the frontal sinus; no paralysis or disturbances of sensation or reflexes; no aphasia; tongue coated, and breath foul; urine passed voluntarily (examined later and found normal); left ear, normal; right ear, normal; pupils equal and respond to light normally; sight

*Read at the Thirty-fifth Annual Meeting of the State Society, Riverside, April, 1905.